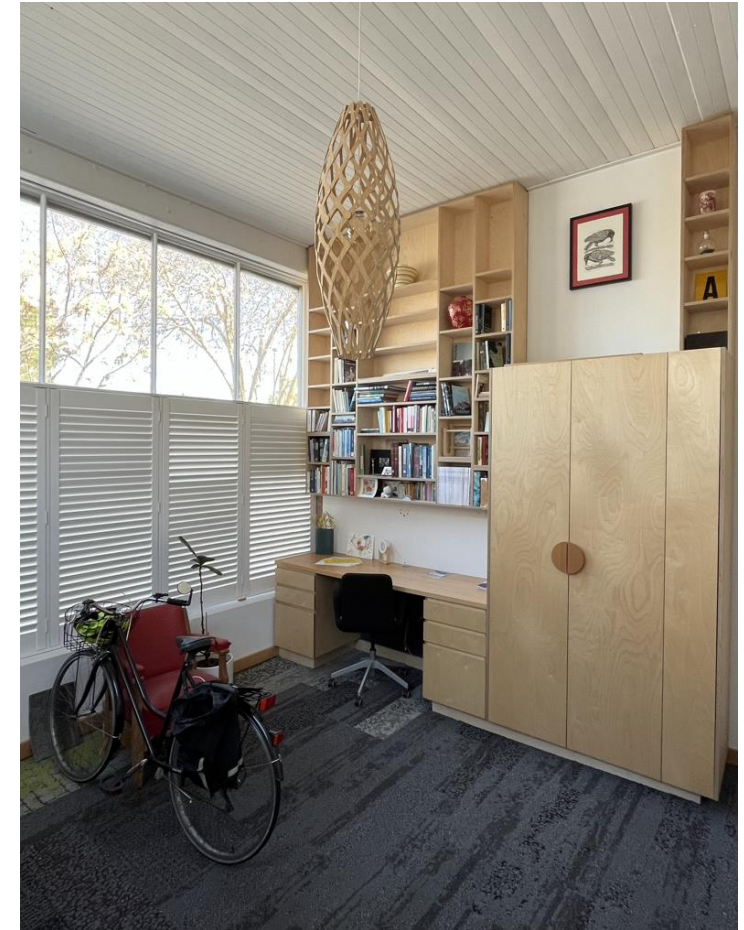


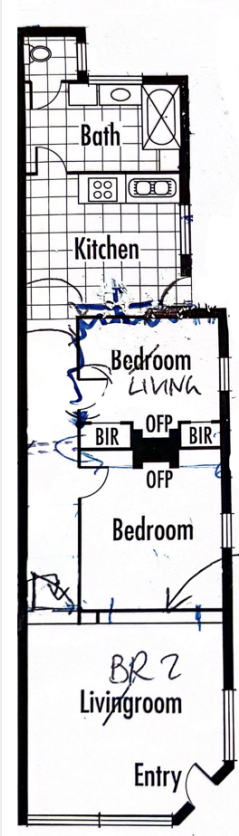
Corner Shop House

Heating & Cooling almost for free



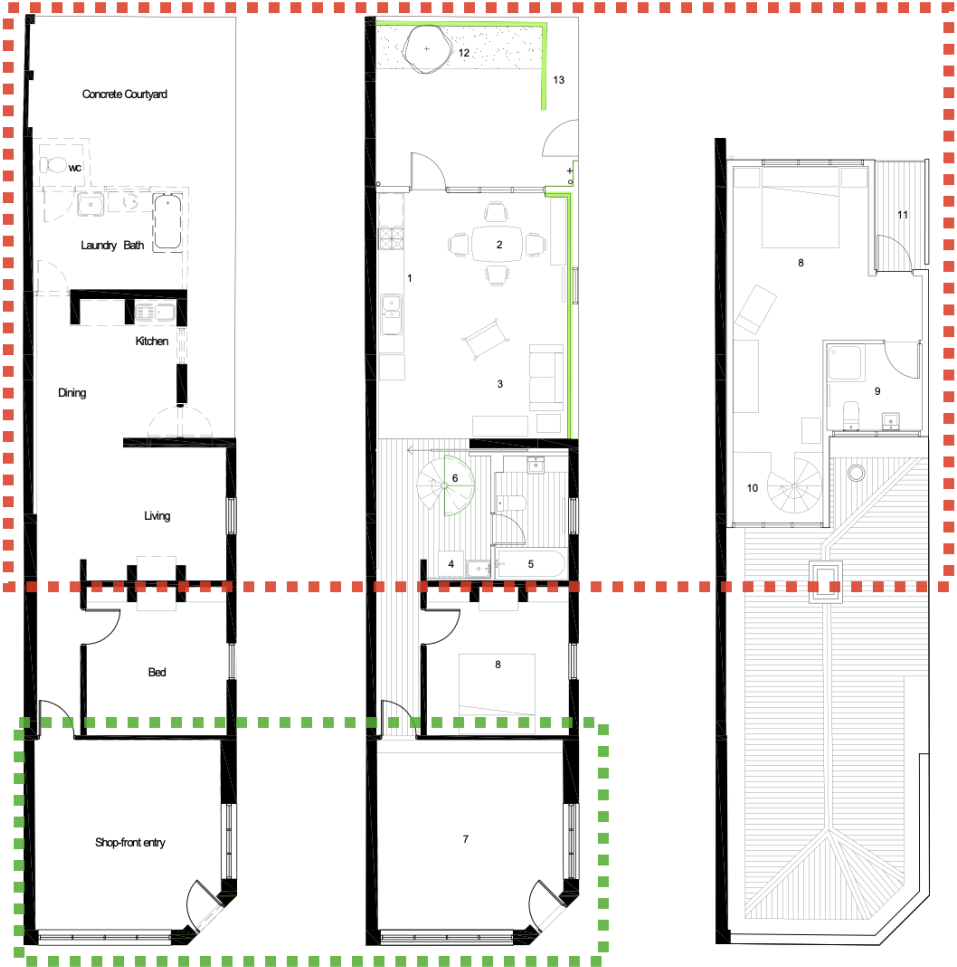
Anna Lindstad Regenerative Designer LFA

STAGING OVERVIEW



Realtor plan

Stage 1



PRE-RENOVATION

GROUND FLOOR

FIRST FLOOR

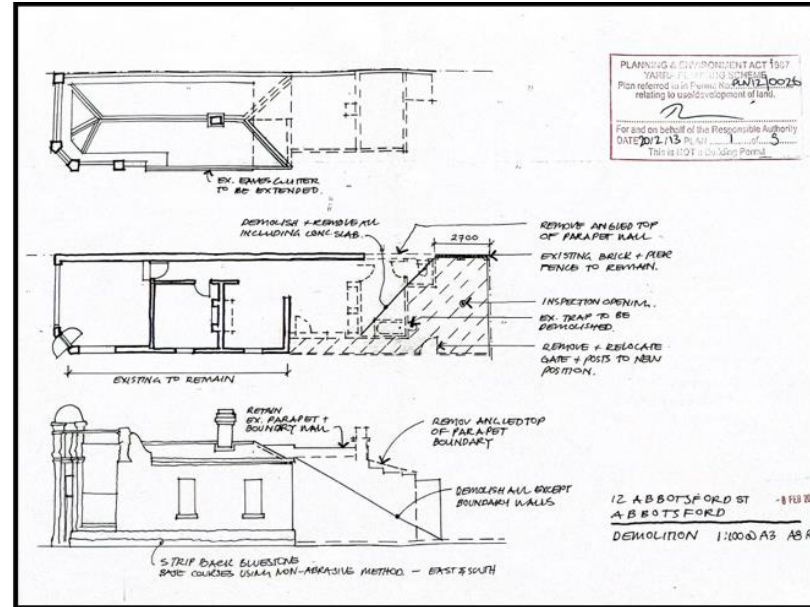
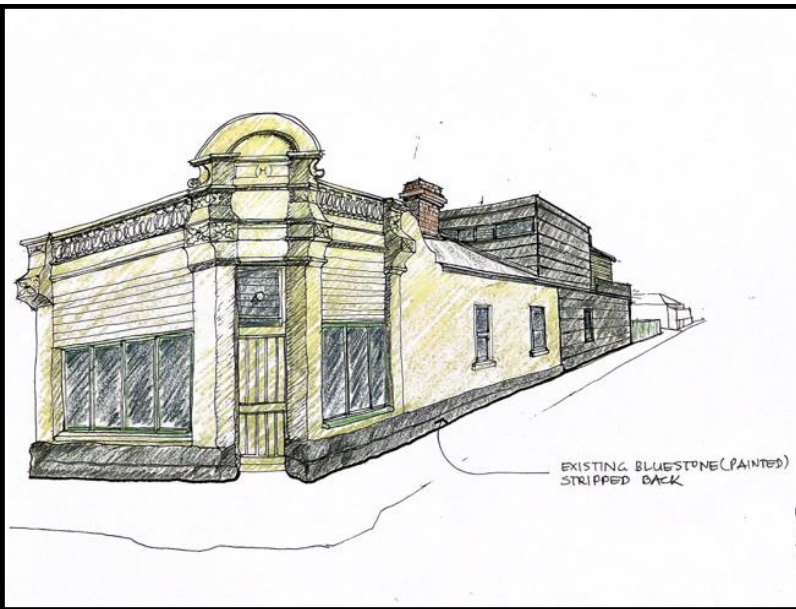
Stage 2



- 1 KITCHEN
- 2 DINING
- 3 LOUNGE
- 4 LAUNDRY
- 5 BATH
- 6 CELLAR
- 7 SHOPFRONT
- 8 BEDROOM
- 9 ENSUITE
- 10 VOID
- 11 DECK
- 12 GARDEN BED
- 13 BINS

FIRST HURDLE

PLANNING APPLICATION: HERITAGE vs SUSTAINABILITY

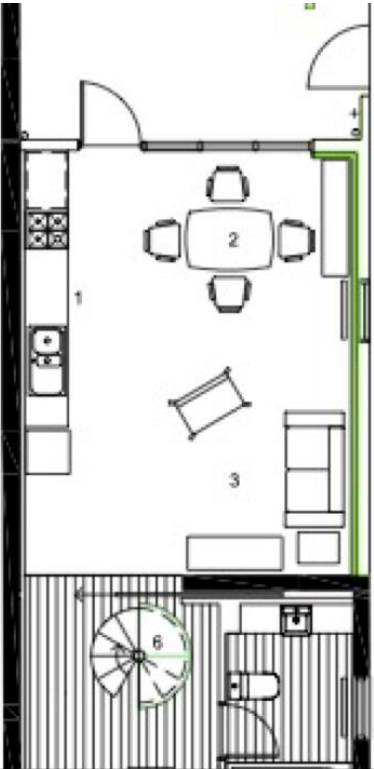


HERITAGE ISSUES

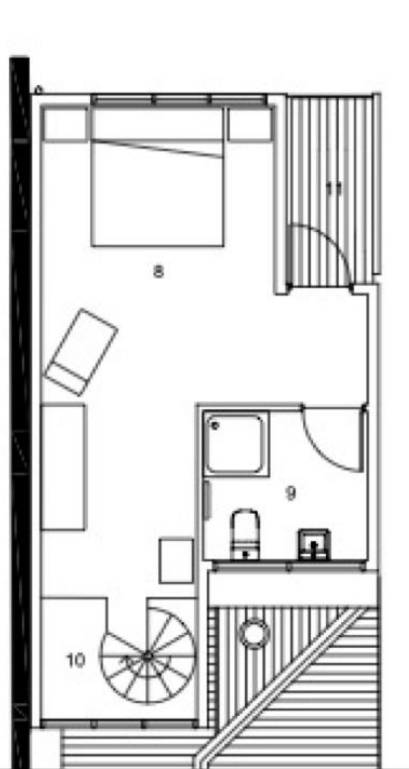
- Heritage overlay + classed as Individually Significant
- Extension and renovation commences after first 2 front rooms
- Council heritage adviser with no understanding of passive solar design; unworkable conditions
- VCAT won with Jon Briggs Heritage Architect

PASSIVE SOLAR HEATING & COOLING

- North-facing living areas, compact 25m²
- Stack-effect ventilation through stairwell and Safetyline Jalousie louvres
- Reverse brick veneer, with limestone blocks internally for thermal mass
- Exposed concrete slab,
- R1.5 to new slab and R2.5 to cantilevered upper floor
- Full-height glazed, cavity sliding door/wall separating stairwell



GROUND FLOOR



LEVEL 1



PASSIVE SOLAR DESIGN + INTEGRATED LANDSCAPE

- High-level Safetyline Jalousie louvres for cross-ventilation
- Second level overhang shades north-facing windows in summer, allowing winter sun
- Deciduous / seasonal planting in planter boxes shading the lower section of windows
- Rating First Rate 6.5*



ACTIVE HEATING & FAN COOLING & HOT WATER



- Hydronic heating, living and main bathroom only
- Hunter Pacific Typhoon steel ceiling fan
- Solar hot water

WINDOWS, GLAZING, ZONING + INSULATION



- Rylock double-glazed aluminium windows with timber reveals $U_w 3.83$
- Safetyline Jalousie single glazed louvres with V-float clear glazing, internal fly-screen, $UW 6.3$
- Existing double hung timber windows (poor seal)
- Internal glazed sliding wall to separate living from corridor
- Insulation: Roof: R4.5 Fletchers pink batts; Walls: R2.5 Fletchers HD polyester batts; Insulated slab edges and waffle inserts.

BUILDING MATERIALS + FITTINGS

- Bruhn limestone blocks, stack-bond internal wall and garden walls
- Radially sawn timber cladding and decking, plantation silver-top ash
- Exposed aggregate polished concrete floor
- BGC fibre cement cladding, Eco-Core White Birch Multiply with HPL for bathroom joinery benches
- Forbo Marleum (linoleum) flooring for ensuite
- **Reused materials and fixtures:**
Bricks from demolition used for boundary wall and external paving;
- Original laundry trough, cabinet, tap-ware; bluestone threshold;
- Baltic pine floorboards; fluted half-glazed door; Victorian sash windows
Second-hand Mid-Century furniture and pendant light fittings

Locally designed or made

- Locally made Enzie spiral stair
- Australian designed Nicola Cerini rug, 50% New Zealand wool,





REGENERATIVE DESIGN

PERMEABLE SURFACE

• Total site area	108m ²
• Existing POS	26m ²
• Increase in footprint	8m ²
• new POS	18m ²
• Permeable surface net gain	18m ²

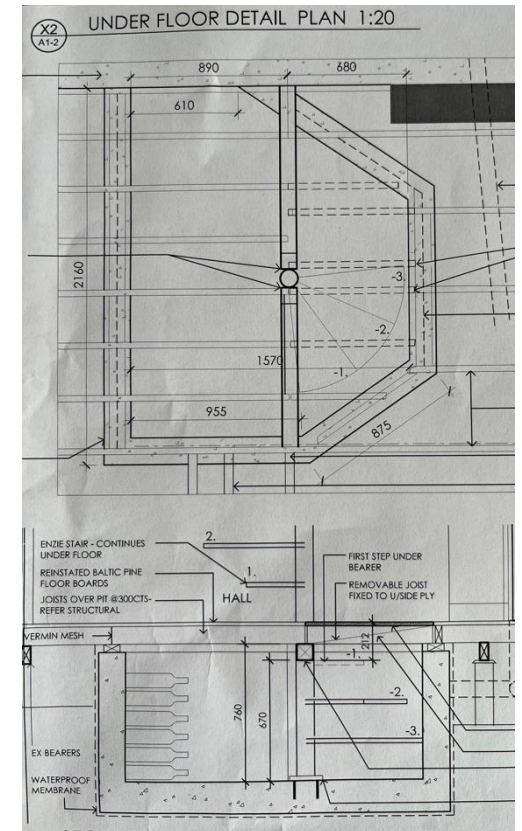
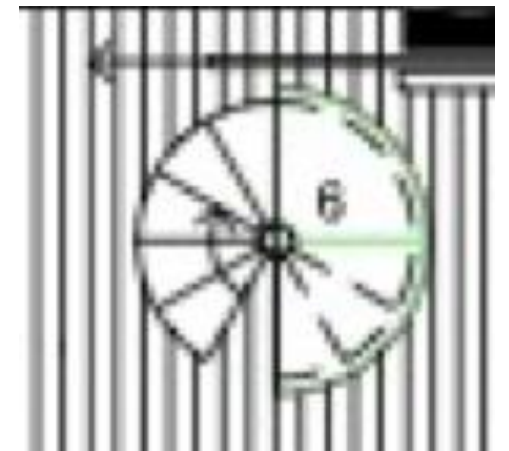
BIODIVERSITY CHANGES

- Native bees
- Possums
- Rosellas



DECARBONISING WINE STORAGE

- Spiral stair continues 5 steps to under floor space
- Optimizing space
- As it is partially underground, stable temperature





DECARBONISING WINE STORAGE

- Anecdotally:
190 Watt wine refrigerator
versus a bit of
underground concrete
- Running a 190 watt wine
refrigerator in Victoria
equates to 620- 1000kg of
Co2 per year
- Concrete in mini cellar
Approx 1.25 cubic m
= 308kg of CO2

BEFORE



AFTER



**STAGE 2
Shopfront
Restoration
- Lockdown
project**



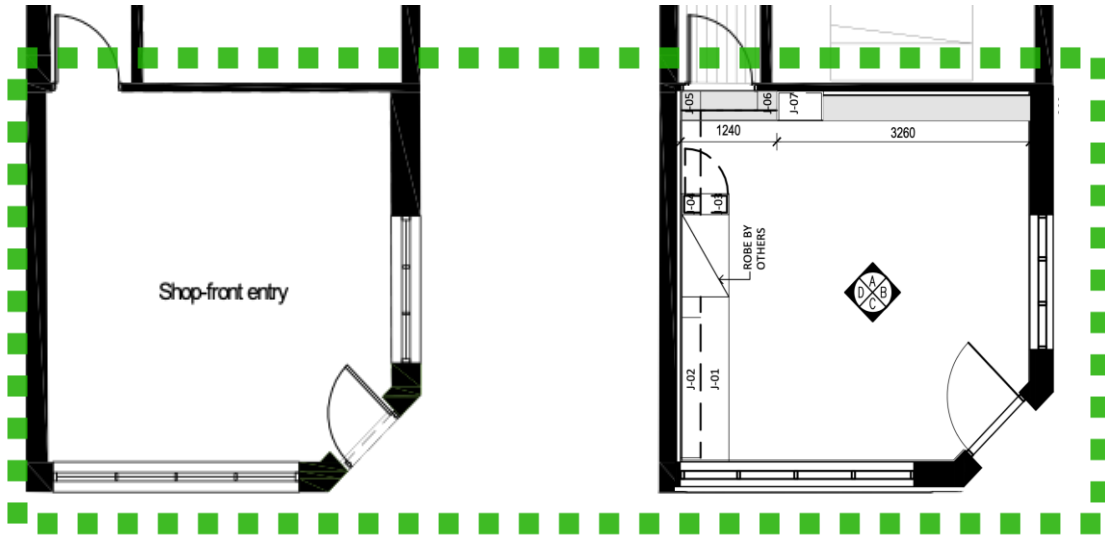
LOTS OF DIY

Unforeseens

- Concrete had been poured around the shop counters
- Very labour-intensive floor tile removal
- Lots of gaps to fill
- Lots of putty
- Damp



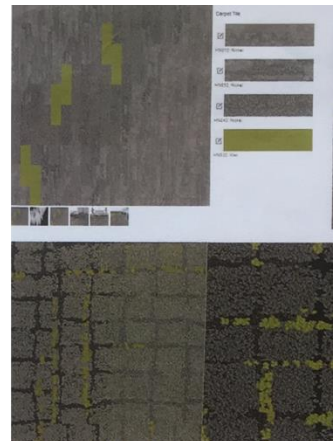
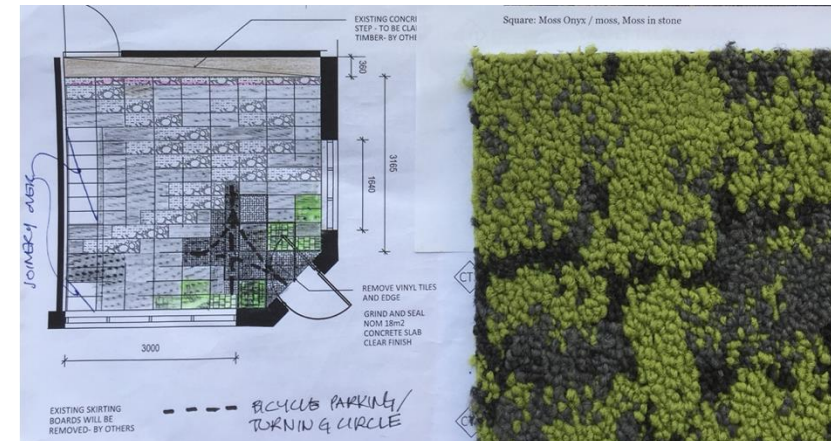
SHOP FRONT + HOME OFFICE



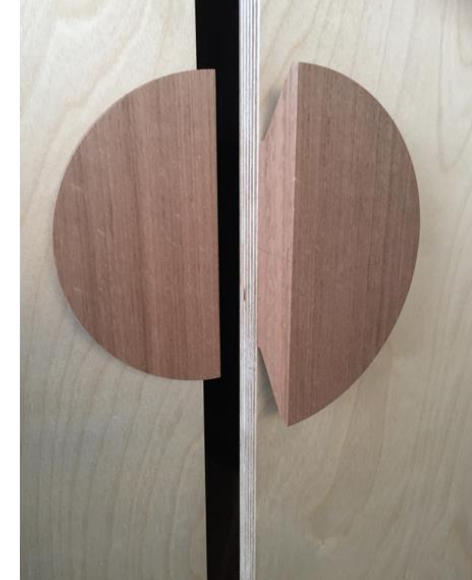
PRE-RENOVATION

GROUND FLOOR

Stage 2



BUILDING MATERIALS + FITTINGS



Reused & Replica materials:

- Boarded up high level shopfront windows exposed,
- Southern upper window replaced with Steptoe's replica installed by Montagna Homes
- Interface carpet tiles including salvaged offcuts and samples

Australian / NZ designed or made

- Locally custom made joinery (JNB Interiors) with double sided pin holes for adjustable shelves to avoid doubling vertical sections
- IN-TERIA split Flapjack Tasmanian Oak robe cupboard handles,
- David Trubridge flat-pack bamboo ply Hinaki pendant light

KEY TAKEAWAYS

- Sustainability and heritage can coexist
- Design for sufficiency
- Passive solar design principles are the low hanging fruit
- Integrate landscape to support passive solar design
- Invest in double glazing, thermal mass, quality louvers and adequate sun shading
- Reusing materials can still look stylish
- Working with great builders makes a big difference

Published in Sanctuary magazine Issue 32 some years ago which I believe is now available on-line:

https://renewportal.org.au/wp-content/uploads/Sanctuary_32.pdf

THANKYOU

